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 File 351:Derwent WPI 1963-2002/UD,UM &UP=200249
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S7	2104090	ANTIBOD? OR IMMUNOGLOBULIN? ?
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34/7/1 (Item 1 from file: 155)
 DIALOG(R)File 155:MEDLINE(R)

10179538 99153619 PMID: 10030548
 Transmission electron microscopy studies of Moraxella (Branhamella)
 catarrhalis.

Fitzgerald M; Mulcahy R; Murphy S; Keane C; Coakley D; Scott T
Department of Biological Sciences, Dublin Institute of Technology,
Ireland.

FEMS immunology and medical microbiology (NETHERLANDS) Jan 1999, 23
(1) p57-66, ISSN 0928-8244 Journal Code: 9315554

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

A trypsin-sensitive 200-kDa protein has been reported to be exclusively associated with haemagglutinating isolates of *Moraxella* (*Branhamella*) *catarrhalis*. Transmission electron microscopy studies revealed that haemagglutination by *M. catarrhalis* to both human and rabbit erythrocytes was mediated by a trypsin-sensitive outer fibrillar coat. This fibrillar layer was absent on non-haemagglutinating isolates examined. Immuno-electron microscopy, using a polyclonal antiserum containing antibodies to the 200-kDa protein as a probe, showed that the 200-kDa protein is present on the outer fibrillar layer of the bacterium. These findings suggest that the haemagglutinin of *M. catarrhalis* is a 200-kDa protein present on the outer fibrillar coat.

Record Date Created: 19990811

34/7/2 (Item 2 from file: 155)
DIALOG(R) File 155:MEDLINE(R)

10095668 99094568 PMID: 9879959

Outer-membrane antigen expression by *Moraxella* (*Branhamella*) *catarrhalis* influences pulmonary clearance.

Kyd J M; Cripps A W; Murphy T F

Faculty of Applied Science, University of Canberra, Belconnen, Australian Capital Territory.

Journal of medical microbiology (ENGLAND) Feb 1998, 47 (2) p159-68,
ISSN 0022-2615 Journal Code: 0224131

Contract/Grant No.: AI28304; AI; NIAID; TW02158; TW; FIC

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Moraxella (*Branhamella*) *catarrhalis* is a common respiratory tract pathogen in man. The bacterium shows a strong tendency to form aggregates in vitro. A variant strain of *M. catarrhalis* that showed a reduced tendency to form aggregates was selected by successive in-vitro passage in broth culture from which aggregates had settled. The non-clumping variant strain showed alteration in expression of outer-membrane antigens, including the HMW-OMP, an outer-membrane protein of c. 200 kDa, outer-membrane protein CD and lipo-oligosaccharide. A mouse model for pulmonary challenge with *M. catarrhalis* revealed significant differences in the rate of clearance of the isogenic variant strains from the lung. The parent strain caused enhanced recruitment of neutrophils to the lung and more rapid clearance of bacteria from the lungs in comparison to the non-clumping variant. It is concluded that alteration of expression of surface molecules by *M. catarrhalis* has a significant impact in an in-vivo model of pulmonary clearance.

Record Date Created: 19990111

34/7/3 (Item 3 from file: 155)
DIALOG(R) File 155:MEDLINE(R)

09517873 97415373 PMID: 9271172

A 200 kDa protein is associated with haemagglutinating isolates of *Moraxella* (Branhamella) catarrhalis.

Fitzgerald M; Mulcahy R; Murphy S; Keane C; Coakley D; Scott T
Department of Biological Sciences, Dublin Institute of Technology,
Ireland.

FEMS immunology and medical microbiology (NETHERLANDS) Jul 1997, 18
(3) p209-16, ISSN 0928-8244 Journal Code: 9315554

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Moraxella catarrhalis adheres to human erythrocytes by means of a proteinaceous, trypsin sensitive, heat modifiable haemagglutinin. A 200 kDa protein was found to be associated with haemagglutinating isolates of *M. catarrhalis*. This protein was present on all haemagglutinating isolates (n = 17), but was absent on the non-haemagglutinating isolates (n = 23) examined. This protein demonstrated heat-modifiable properties in sodium dodecyl sulfate and was degraded by trypsin. Immunoblot assays with polyclonal antiserum indicated that the 200 kDa protein was associated exclusively with haemagglutinating isolates and antibodies to this protein did not recognise epitopes on non-haemagglutinating isolates. This protein, which appears to be a surface expressed protein may be a haemagglutinin of *M. catarrhalis*.

Record Date Created: 19971023

34/7/4 (Item 4 from file: 155)
DIALOG(R) File 155:MEDLINE(R)

09312538 97222083 PMID: 9069102

Haemagglutination properties of *Moraxella* (Branhamella) catarrhalis.

Fitzgerald M; Murphy S; Mulcahy R; Keane C; Coakley D; Scott T
Department of Biological Sciences, Dublin Institute of Technology,
Ireland.

British journal of biomedical science (ENGLAND) Dec 1996, 53 (4)
p257-62, ISSN 0967-4845 Journal Code: 9309208

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

The ability of 30 isolates of *Moraxella* (Branhamella) catarrhalis to haemagglutinate erythrocytes of five species was examined. Two haemagglutination phenotypes of *M. catarrhalis* were observed: phenotype I isolates (n = 10) agglutinated human erythrocytes, while phenotype II isolates (n = 7) agglutinated both human and rabbit erythrocytes. No haemagglutination was observed with chick, sheep or horse erythrocytes. Haemagglutination by both phenotype I and II isolates was abolished following treatment of these isolates with pronase and trypsin, while heat treatment at 70 degrees C markedly reduced the level of haemagglutination by both sets of isolates. Haemagglutination by phenotype II isolates was inhibited by galactose, whereas haemagglutination by phenotype I isolates was not inhibited by this carbohydrate. Transmission electron microscopy (TEM) studies showed that

very close cell-surface interactions occurred when both phenotypes of *M. catarrhalis* adhered to the human erythrocyte. Fimbrial attachment was not apparent. Haemagglutinating isolates of both phenotypes had a trypsin-sensitive outer fibrillar coat when examined by TEM.

Record Date Created: 19970408

34/7/5 (Item 5 from file: 155)
DIALOG(R) File 155:MEDLINE(R)

08258786 95016035 PMID: 7523537

A large, antigenically conserved protein on the surface of *Moraxella catarrhalis* is a target for protective antibodies.

Helminen M E; Maciver I; Latimer J L; Klesney-Tait J; Cope L D; Paris M; McCracken G H; Hansen E J

Department of Microbiology, University of Texas Southwestern Medical Center, Dallas 75235-9048.

Journal of infectious diseases (UNITED STATES) Oct 1994, 170 (4)
p867-72, ISSN 0022-1899 Journal Code: 0413675

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

A monoclonal antibody (Mab) to *Moraxella catarrhalis* O35E bound to a surface-exposed epitope of a proteinaceous antigen of this organism. The antigen, designated UspA, was present in every strain of the pathogen tested in a colony blot RIA. UspA had a molecular mass on SDS-PAGE that varied between 300 and 400 kDa, depending on the individual *M. catarrhalis* strain. Passive immunization of mice with the UspA-reactive Mab enhanced pulmonary clearance of *M. catarrhalis*. Use of this Mab to screen a *M. catarrhalis* genomic DNA library permitted identification of a recombinant bacteriophage expressing the *M. catarrhalis* UspA protein. The recombinant UspA protein was used in Western blot analysis with sera from patients with *M. catarrhalis* pneumonia. Convalescent-phase sera but not acute-phase sera from these patients contained antibodies to this *M. catarrhalis* surface protein, indicating that *M. catarrhalis* strains growing in vivo express this molecule.

Record Date Created: 19941101

34/7/6 (Item 6 from file: 155)
DIALOG(R) File 155:MEDLINE(R)

08052034 94178917 PMID: 8132320

Purification and characterization of a high-molecular-weight outer membrane protein of *Moraxella* (*Branhamella*) *catarrhalis*.

Klingman K L; Murphy T F

Infectious Diseases Section, Buffalo Veterans' Affairs Medical Center, NY 14215.

Infection and immunity (UNITED STATES) Apr 1994, 62 (4) p1150-5,
ISSN 0019-9567 Journal Code: 0246127

Contract/Grant No.: 28304; PHS

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Moraxella (*Branhamella*) *catarrhalis* is an important bacterial cause of

otitis media in children and lower respiratory tract infections in adults. In this study, we describe the presence of a novel high-molecular-weight outer membrane protein (HMW-OMP). This protein varies from 350 to 720 kDa in apparent molecular mass among strains by sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE). The protein was detected on SDS-PAGE in 13 of 14 strains tested. We developed a monoclonal antibody and polyclonal antisera to this protein. In immunoblot assays, the protein was present in all 14 strains tested. The immunoblot assays suggest that the protein has at least one epitope that is conserved among strains. A purification method using anion-exchange chromatography is described. Treatment of outer membrane preparations and purified protein by heat and reducing agents did not change the apparent molecular mass of the HMW-OMP. Formic acid treatment of outer membrane preparations and purified HMW-OMP produced a single band with an apparent molecular mass of 120 to 140 kDa. We postulate that this may be the monomer of an oligomeric protein. The HMW-OMP, which varies in molecular mass among strains and is antigenically conserved, will be studied further to determine its role in the human immune response and may be useful as a marker in studying strain acquisition in patients.

Record Date Created: 19940421

34/7/7 (Item 7 from file: 155)
DIALOG(R) File 155:MEDLINE(R)

07597741 93125221 PMID: 1362238

Fimbriation, hemagglutination and adherence properties of fresh clinical isolates of *Branhamella catarrhalis*.

Ahmed K; Rikitomi N; Matsumoto K

Department of Internal Medicine, Nagasaki University, Japan.

Microbiology and immunology (JAPAN) 1992, 36 (10) p1009-17, ISSN 0385-5600 Journal Code: 7703966

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

This study investigated the fimbriation on 24 fresh clinical isolates of *Branhamella catarrhalis* by electron microscopy. All the strains were isolated from patients with respiratory infections. The *Branhamella catarrhalis* strains were classified into three groups according to the grade of fimbriation. Among these 24 strains the incidence of densely fimbriated, moderately fimbriated and sparsely fimbriated isolates were 12 (50%), 7 (29%) and 5 (21%), respectively. After five-times serial subculture on Brain Heart Infusion agar, the average number of fimbriae per bacteria was decreased from 174 to 114 in the densely fimbriated strain and from 48 to 10 in the moderately fimbriated strain. Moreover, 20% of the population became non-fimbriated in moderately fimbriated strain after the serial subculture. In strains with higher hemagglutination titer the number of fimbriae was significantly ($P < 0.04$) more than in strains with lower hemagglutination titer.

Record Date Created: 19930205

34/7/8 (Item 8 from file: 155)
DIALOG(R) File 155:MEDLINE(R)

07179325 92116146 PMID: 1685025

Mechanism of adherence of *Moraxella* (*Branhamella*) *catarrhalis*.
Rikitomi N; Andersson B; Matsumoto K; Lindstedt R; Svanborg C
Department of Internal Medicine, Nagasaki University, Japan.
Scandinavian journal of infectious diseases (SWEDEN) 1991, 23 (5)
p559-67, ISSN 0036-5548 Journal Code: 0215333
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

We examined the mechanisms of adherence of *Moraxella catarrhalis* to nasopharyngeal epithelial cells. Fimbriae were detected by electron microscopy on most of the strains studied. A role of fimbriae in adherence was supported by the reduction in adherence by treatments denaturing the fimbriae or by antifimbrial antibodies. There was, however, no significant difference in adhesive capacity or hemagglutination between fimbriated and non-fimbriated strains. Furthermore, there was no correlation between hemagglutination and adherence. The possibility that receptor epitopes were provided by cell surface glycolipids was examined by thin-layer chromatography. Glycolipids from various sources, including nasopharyngeal cells were separated by thin layer chromatography plates and overlaid with bacteria. No binding was detected. The results suggest that lectin-glycolipid interactions do not explain the attachment of *M. catarrhalis* to epithelial cells.

Record Date Created: 19920218

34/7/9 (Item 9 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06568077 90252821 PMID: 2111090

A comparison of serum bactericidal activity and phenotypic characteristics of bacteremic, pneumonia-causing strains, and colonizing strains of *Branhamella catarrhalis*.

Jordan K L; Berk S H; Berk S L

Department of Internal Medicine, East Tennessee State University, James H. Quillen College of Medicine, Johnson City 37614.

American journal of medicine (UNITED STATES) May 14 1990, 88 (5A)
p28S-32S, ISSN 0002-9343 Journal Code: 0267200

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Four blood isolates, 12 pneumonia isolates, and seven colonizing isolates of *Branhamella catarrhalis* were compared with respect to their ability to grow in normal human serum and in convalescent serum of a patient with *B. catarrhalis* bacteremia. Disease-causing isolates showed seven of 16 serum-resistant strains (43 percent) compared with one of seven (13 percent) colonizing strains. Bacteremic strains were not more serum-resistant than pneumonia-causing strains. Trypsin zones of inhibition were higher for disease-causing strains. There was no correlation between source of isolation and colistin sensitivity or ability to hemagglutinate red blood cells.

Record Date Created: 19900618

34/7/10 (Item 10 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06224607 89309223 PMID: 2501353

Phenotypic characteristics of *Branhamella catarrhalis* strains .

Soto-Hernandez J L; Holtsclaw-Berk S; Harvill L M; Berk S L

Medical Service, Veterans Administration Medical Center, Johnson City, Tennessee 37614.

Journal of clinical microbiology (UNITED STATES) May 1989, 27 (5)
p903-8, ISSN 0095-1137 Journal Code: 7505564

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Isolates of *Branhamella catarrhalis* from 13 patients with pneumonia, 6 patients with tracheobronchitis, and 8 patients who were colonized with the organism were studied with respect to susceptibility to the bactericidal action of normal human serum (NHS), glass slide-hemagglutination (HA) of group O human erythrocytes, beta-lactamase production, and susceptibility to selected antimicrobial agents and laboratory drugs. A total of 18 of 27 isolates were serum resistant, 22 of 27 produced HA, and 21 of 27 were beta-lactamase positive. Statistically significant correlations were found between susceptibility to NHS and susceptibility to trypsin ($r = +0.47$; $P = 0.01$) and between susceptibility to NHS and HA ($r = -0.48$; $P = 0.009$). Significant correlations were also observed among several pairs of antimicrobial drugs. Analysis of variance showed that mean ampicillin MICs correlated with isolate group ($r = -0.49$; $P = 0.03$) in that the pneumonia isolates had higher MICs. Some phenotypic characteristics appeared to be independent of each other. These data suggest that important differences exist among clinically significant *B. catarrhalis* strains and that these differences may be due to differences in the cell wall envelope of the organism.

Record Date Created: 19890823

34/7/11 (Item 11 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

04788968 85176387 PMID: 3986674

Moraxella bovis hemagglutinins: effect of carbohydrates, heating and erythrocytes.

Gil-Turnes C; Ribeiro G A

Canadian journal of comparative medicine. Revue canadienne de medecine comparee (CANADA) Jan 1985, 49 (1) p112-4, ISSN 0008-4050

Journal Code: 0151747

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Several properties of the adhesins of eight isolates of *Moraxella bovis* recovered from cattle suffering from infectious keratoconjunctivitis, were studied. Adhesions were detected through autoagglutination in saline and hemagglutination. Autoagglutinating strains agglutinated red blood cells of the chicken, rabbit, sheep and swine, but not those of the guinea pig. The adhesins were not inhibited by D-mannose or D-galactose and resisted heating at 100 degrees C for 15 minutes. Magnesium chloride at a final concentration of 10% inhibited autoagglutination and hemagglutination. The value of the hemagglutination test for monitoring synthesis of fimbriae by *M. bovis*, is discussed.

Record Date Created: 19850607

34/7/12 (Item 12 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

04439704 84129800 PMID: 6667436

Hemagglutination , autoagglutination and pathogenicity of *Moraxella bovis* strains .

Gil-Turnes C

Canadian journal of comparative medicine. Revue canadienne de medecine comparee (CANADA) Oct 1983, 47 (4) p503-4, ISSN 0008-4050

Journal Code: 0151747

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Three isolates of *Moraxella bovis*, recovered from cattle with signs of infectious bovine keratoconjunctivitis, were tested for autoagglutinating activity, hemagglutinating activity and pathogenicity in young calves. Only the autoagglutinating and hemagglutinating isolates were pathogenic in calves. Treatment of the pathogenic isolates with magnesium chloride eliminated their pathogenic effects.

Record Date Created: 19840424

34/7/13 (Item 13 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

01686110 73222271 PMID: 4515878

Examination of two bacterial strains designated "Brucella suis biotype 5".

Corbel M J

Journal of hygiene (ENGLAND) Jun 1973, 71 (2) p271-82, ISSN

0022-1724 Journal Code: 0375374

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Record Date Created: 19730926

34/7/14 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.

13719179 BIOSIS NO.: 200200348000

Multi-component vaccine to protect against disease caused by *Haemophilus influenzae* and *Moraxella catarrhalis*.

AUTHOR: Loosmore Sheena M(a); Yang Yan-Ping; Klein Michel H; Sasaki Ken

AUTHOR ADDRESS: (a)Aurora**Canada

JOURNAL: Official Gazette of the United States Patent and Trademark Office
Patents 1258 (3):pNo Pagination May 21, 2002

MEDIUM: e-file

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: A multi-valent immunogenic composition confers protection on an immunized host against infection caused by both Haemophilus influenzae and Moraxella catarrhalis. Such composition comprises at least four antigens comprising at least one antigen from Haemophilus influenzae, and at least one antigen from Moraxella catarrhalis. Three of the antigens are adhesins. High molecular weight (HMW) proteins and Haemophilus influenzae adhesin (Hia) proteins of non-typeable Haemophilus and a 200 kDa outer membrane protein of Moraxella catarrhalis comprise the adhesin components while the other antigen is a non-proteolytic analog of Hin47 protein. Each component does not impair the immunogenicity of the others. The multi-valent immunogenic composition may be combined with DTP component vaccines, which may also include non-virulent poliovirus and PRP-T, to provide a component vaccine without impairment of the immunogenic-properties of the other antigens.

34/7/15 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.

13515778 BIOSIS NO.: 200200144599
High molecular weight major outer membrane protein of moraxella .
AUTHOR: Sasaki Ken(a); Harkness Robin E; Klein Michel H
AUTHOR ADDRESS: (a)Willowdale**Canada
JOURNAL: Official Gazette of the United States Patent and Trademark Office
Patents 1254 (1):pNo Pagination Jan. 1, 2002
MEDIUM: e-file
ISSN: 0098-1133
DOCUMENT TYPE: Patent
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: An isolated and purified outer membrane protein of a Moraxella strain, particularly M. catarrhalis, has a molecular mass of about 200 kDa . The about 200 kDa outer membrane protein as well as nucleic acid molecules encoding the same are useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the about 200 kDa outer membrane protein or produces a protein capable of inducing antibodies in a host specifically reactive with the about 200 kDa outer membrane protein.

34/7/16 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.

13245418 BIOSIS NO.: 200100452567
Moraxella catarrhalis outer membrane protein - 106 polypeptide, gene sequence and uses thereof.
AUTHOR: Tucker Kenneth (a); Plosila Laura ; Tillman Ulrich F
AUTHOR ADDRESS: (a)Frederick, MD**USA
JOURNAL: Official Gazette of the United States Patent and Trademark Office
Patents 1245 (2):pNo Pagination Apr. 10, 2001
MEDIUM: e-file

ISSN: 0098-1133
DOCUMENT TYPE: Patent
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The invention discloses the *Moraxella catarrhalis* outer membrane protein - 106 (OMP106) polypeptide, polypeptides derived therefrom (OMP106-derived polypeptides), nucleotide sequences encoding said polypeptides, and antibodies that specifically bind the OMP106 polypeptide and/or OMP106-derived polypeptides. Also disclosed are immunogenic, prophylactic or therapeutic compositions, including vaccines, comprising OMP106 polypeptide and/or OMP106-derived polypeptides. The invention additionally discloses methods of inducing immune responses to *M. catarrhalis* and *M. catarrhalis* OMP106 polypeptides and OMP106-derived polypeptides in animals.

34/7/17 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2002 BIOSIS. All rts. reserv.

07803583 BIOSIS NO.: 000041077724
QUANTIFICATION OF MORAXELLA -BOVIS HEMAGGLUTINATING ADHESINS WITH
MONOCLONAL ANTIBODIES
AUTHOR: GIL-TURNES C; ALEIXO J A G
AUTHOR ADDRESS: UNIV. FEDERAL PELOTAS, CENTRO BIOTECNOL., 96100 PELOTAS,
R.S., BRAZIL.
JOURNAL: LETT APPL MICROBIOL 13 (2). 1991. 55-57. 1991
FULL JOURNAL NAME: Letters in Applied Microbiology
CODEN: LAMIE
RECORD TYPE: Citation
LANGUAGE: ENGLISH

34/7/18 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.

07654721 EMBASE No: 1999143398
Tissue culture adherence and haemagglutination characteristics of
Moraxella (*Branhamella*) *catarrhalis*
Fitzgerald M.; Murphy S.; Mulcahy R.; Keane C.; Coakley D.; Scott T.
T. Scott, Department of Biological Sciences, Dublin Institute of
Technology, Kevin Street 8, Dublin Ireland
AUTHOR EMAIL: tscott@dit.ie
FEMS Immunology and Medical Microbiology (FEMS IMMUNOL. MED. MICROBIOL.
) (Netherlands) 1999, 24/1 (105-114)
CODEN: FIMIE ISSN: 0928-8244
PUBLISHER ITEM IDENTIFIER: S0928824499000152
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 36

The haemagglutination and tissue culture adherence properties of 20 isolates of *Moraxella catarrhalis* obtained from the sputum of elderly patients with lower respiratory tract infections were compared with those of 20 isolates of *M. catarrhalis* obtained from the nasopharynx of elderly

persons colonised by the organism. Eighty percent of isolates from the infected group as opposed to 5% of isolates from the colonised group haemagglutinated human erythrocytes ($P < 0.001$), indicating that the haemagglutinin might be a marker of pathogenicity for *M. catarrhalis*. There was a significant difference in the adherence to HEp-2 cells of isolates from the infected group in comparison to isolates from the colonised group ($P = 0.03$). Haemagglutination and tissue culture adherence properties were unrelated, indicating that separate adhesin systems are involved. The adherence of *M. catarrhalis* to HEp-2 cells was unaffected following pronase and trypsin treatment, however, sodium periodate pre-treatment of the bacteria significantly reduced the tissue culture adherence index, indicating that the adhesin by which the bacteria bind to HEp-2 cells may have a carbohydrate moiety. Transmission electron microscopy studies revealed that adherence of *M. catarrhalis* to HEp-2 cells was mediated by trypsin-resistant 'tack-/spicule-like' structures protruding from the surface of the bacteria. Copyright (C) 1999 Federation of European Microbiological Societies.

34/7/19 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2002 Elsevier Science B.V. All rts. reserv.

02778936 EMBASE No: 1984047895
Hemagglutination , autoagglutination and pathogenicity of *Moraxella bovis* strains
Gil Turnes C.
Faculdade de Veterinaria, Universidade Federal de Pelotas, 96.100
Pelotas, RS Brazil
Canadian Journal of Comparative Medicine (CAN. J. COMP. MED.) (Canada)
1983, 47/4 (503-504)
CODEN: CJCMA
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH SUMMARY LANGUAGE: FRENCH

34/7/20 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
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134265146 CA: 134(19)265146u PATENT
Cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses
INVENTOR(AUTHOR): Tucker, Kenneth; Plosila, Laura; Tillman, Ulrich F.
LOCATION: USA
ASSIGNEE: Antex Biologics Inc.
PATENT: United States ; US 6214981 B1 DATE: 20010410
APPLICATION: US 968685 (19971112) *US 642712 (19960503)
PAGES: 49 pp., Cont.-in-part of U.S. Ser. No. 642,712. CODEN: USXXAM
LANGUAGE: English CLASS: 536023100; C07H-021/02A
SECTION:
CA215002 Immunochemistry
CA203XXX Biochemical Genetics
CA210XXX MICROBIAL, ALGAL, AND FUNGAL BIOCHEMISTRY
IDENTIFIERS: *Moraxella* outer membrane protein OMP106 gene sequence
vaccine
DESCRIPTORS:

Infection...

bacterial, *Moraxella catarrhalis* in, prophylaxis and treatment of;
cloning and characterization of outer membrane protein OMP106 gene of
Moraxella catarrhalis and its prophylactic, diagnostic and ther

Escherichia coli...

.beta.-galactosidase of; cloning and characterization of outer membrane
protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic,
diagnostic and therapeutic uses

Molecular cloning... *Moraxella catarrhalis*... Nucleic acid hybridization...

Primers(nucleic acid)... Probes(nucleic acid)... Rabbit...

cloning and characterization of outer membrane protein OMP106 gene of
Moraxella catarrhalis and its prophylactic, diagnostic and therapeutic
uses

Antibodies...

cytotoxic, to *Moraxella catarrhalis* OMP106; cloning and
characterization of outer membrane protein OMP106 gene of *Moraxella*
catarrhalis and its prophylactic, diagnostic and therapeutic uses

Mutation...

deletion, of omp106 gene of *Moraxella catarrhalis*; cloning and
characterization of outer membrane protein OMP106 gene of *Moraxella*
catarrhalis and its prophylactic, diagnostic and therapeutic uses

Immunoassay...

for antibodies to *Moraxella*; cloning and characterization of outer
membrane protein OMP106 gene of *Moraxella catarrhalis* and its
prophylactic, diagnostic and therapeutic uses

Respiratory tract...

infection, *Moraxella catarrhalis* in, prophylaxis and treatment of;
cloning and characterization of outer membrane protein OMP106 gene of
Moraxella catarrhalis and its prophylactic, diagnostic and ther

Diagnosis...

mol.; cloning and characterization of outer membrane protein OMP106
gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and
therapeutic uses

Pneumonia...

Moraxella catarrhalis in, prophylaxis and treatment of; cloning and
characterization of outer membrane protein OMP106 gene of *Moraxella*
catarrhalis and its prophylactic, diagnostic and therapeutic use

Vaccines...

Moraxella catarrhalis, outer membrane proteins as antigens in; cloning
and characterization of outer membrane protein OMP106 gene of *Moraxella*
catarrhalis and its prophylactic, diagnostic and therapeu

Pharynx...

nasopharynx, OMP106 proteins in *Moraxella* binding to; cloning and
characterization of outer membrane protein OMP106 gene of *Moraxella*
catarrhalis and its prophylactic, diagnostic and therapeutic uses

Adhesion,biological...

of *Moraxella* and nasopharyngeal cells, OMP106 in; cloning and
characterization of outer membrane protein OMP106 gene of *Moraxella*
catarrhalis and its prophylactic, diagnostic and therapeutic uses

Electroporation...

of *Moraxella catarrhalis*; cloning and characterization of outer
membrane protein OMP106 gene of *Moraxella catarrhalis* and its
prophylactic, diagnostic and therapeutic uses

DNA sequences...

of OMP106 gene of *Moraxella catarrhalis*; cloning and characterization
of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its
prophylactic, diagnostic and therapeutic uses

Protein sequences...

of OMP106 of *Moraxella catarrhalis*; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

Myosins...

of rabbit skeletal muscle, as protein mol. wt. marker; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

Proteins, specific or class...

OMP (outer membrane protein), OMP106; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

Gene, microbial...

omp106, for OMP106 protein of *M. catarrhalis*; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

Ear...

otitis, otitis media, *Moraxella catarrhalis* in, prophylaxis and treatment of; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic

Plasmid vectors...

pOMP106X; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

Polyacrylamide gel electrophoresis...

SDS; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

Respiratory tract...

sinusitis, *Moraxella catarrhalis* in, prophylaxis and treatment of; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic

Vaccines...

synthetic, *Moraxella*, omp106 gene in; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

Antibodies...

to *Moraxella catarrhalis* OMP106; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

Carbohydrates, biological studies... *Haemophilus*... Lipids, biological studies... Lipopolysaccharides... *Moraxella*... *Neisseria*...

Phospholipids, biological studies... Proteins, general, biological studies...

Pseudomonas... *Streptococcus*...

vaccine formulations contg. *Moraxella* antigens and; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

CAS REGISTRY NUMBERS:

332002-95-6 amino acid sequence; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

9031-11-2 as protein mol. wt. marker; cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

199455-06-6 cloning and characterization of outer membrane protein OMP106 gene of *Moraxella catarrhalis* and its prophylactic, diagnostic and therapeutic uses

199456-07-0 332002-96-7 332002-97-8 nucleotide sequence; cloning and characterization of outer membrane protein OMP106 gene of Moraxella catarrhalis and its prophylactic, diagnostic and therapeutic uses
332003-92-6 332003-93-7 332003-94-8 332003-95-9 332003-96-0
332003-97-1 332003-98-2 332003-99-3 unclaimed nucleotide sequence; cloning and characterization of outer membrane protein OMP106 gene of Moraxella catarrhalis and its prophylactic, diagnostic and therapeutic uses
332047-32-2 unclaimed protein sequence; cloning and characterization of outer membrane protein OMP106 gene of Moraxella catarrhalis and its prophylactic, diagnostic and therapeutic uses
199390-66-4 199390-67-5 331960-60-2 331960-63-5 331960-65-7 unclaimed sequence; cloning and characterization of outer membrane protein OMP106 gene of Moraxella catarrhalis and its prophylactic, diagnostic and therapeutic uses

34/7/21 (Item 2 from file: 399)
DIALOG(R) File 399:CA SEARCH(R)
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132250005 CA: 132(19)250005g PATENT
Antigenic outer membrane protein OMP21 of Moraxella catarrhalis and the gene encoding it and their prophylactic, diagnostic and therapeutic uses
INVENTOR(AUTHOR): Tucker, Kenneth; Tillmann, Ulrich F.
LOCATION: USA
ASSIGNEE: Antex Biologics Inc.
PATENT: PCT International ; WO 200018910 A1 DATE: 20000406
APPLICATION: WO 99US22918 (19991001) *US 164714 (19981001)
PAGES: 109 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-015/11A; C07K-014/00B; C07K-016/00B; A61K-048/00B; A61K-039/395B; A61K-038/00B
DESIGNATED COUNTRIES: AE; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CU; CZ; DE; DK; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; UA; UG; US; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM
DESIGNATED REGIONAL: GH; GM; KE; LS; MW; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG
SECTION:
CA215002 Immunochemistry
CA203XXX Biochemical Genetics
CA210XXX MICROBIAL, ALGAL, AND FUNGAL BIOCHEMISTRY
IDENTIFIERS: antigen outer membrane protein OMP21 Moraxella, gene omp21 Moraxella surface antigen cloning expression sequence, vaccine Moraxella outer membrane protein OMP21
DESCRIPTORS:
Moraxella catarrhalis...
antigenic outer membrane protein OMP21 of Moraxella catarrhalis and gene encoding it and their prophylactic, diagnostic and therapeutic uses
Infection...
bacterial, Moraxella catarrhalis in, prophylaxis and treatment of; antigenic outer membrane protein OMP21 of Moraxella catarrhalis and gene encoding it and their prophylactic, diagnostic and therapeutic uses
Antibodies...
cytotoxic, to Moraxella catarrhalis OMP21; antigenic outer membrane

protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Mutation...

deletion, of omp21 gene of *Moraxella catarrhalis*; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Immunoassay...

for antibodies to *Moraxella*; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Primers(nucleic acid)...

for cloning of omp21 gene of *Moraxella catarrhalis*; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Respiratory tract...

infection, *Moraxella catarrhalis* in; prophylaxis and treatment of; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Pneumonia...

Moraxella catarrhalis in; prophylaxis and treatment of; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Vaccines...

Moraxella catarrhalis, outer membrane proteins as antigens in; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Pharynx...

nasopharynx, OMP21 proteins in *Moraxella* binding to; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Adhesion,biological...

of *Moraxella* and nasopharyngeal cells, OMP21 in; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Electroporation...

of *Moraxella catarrhalis*; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

DNA sequences...

of OMP21 gene of *Moraxella catarrhalis*; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Protein sequences...

of OMP21 of *Moraxella catarrhalis*; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Proteins,specific or class...

OMP (outer membrane protein), OMP21; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Gene,microbial...

omp21, for OMP21 protein of *M. catarrhalis*; antigenic outer membrane protein OMP21 of *Moraxella catarrhalis* and gene encoding it and their prophylactic, diagnostic and therapeutic uses

Ear...

otitis, otitis media, *Moraxella catarrhalis* in; prophylaxis and treatment of; antigenic outer membrane protein OMP21 of *Moraxella*

catarrhalis and gene encoding it and their prophylactic, diagnostic and
Plasmid vectors...

pOMP21x, expression vector for omp21 gene of Moraxella catarrhalis;
antigenic outer membrane protein OMP21 of Moraxella catarrhalis and
gene encoding it and their prophylactic, diagnostic and therapeutic
Respiratory tract...

sinusitis, Moraxella catarrhalis in, prophylaxis and treatment of;
antigenic outer membrane protein OMP21 of Moraxella catarrhalis and
gene encoding it and their prophylactic, diagnostic and therapeutic
Vaccines...

synthetic, Moraxella, omp21 gene in; antigenic outer membrane protein
OMP21 of Moraxella catarrhalis and gene encoding it and their
prophylactic, diagnostic and therapeutic uses

Antibodies...

to Moraxella catarrhalis OMP21; antigenic outer membrane protein OMP21
of Moraxella catarrhalis and gene encoding it and their prophylactic,
diagnostic and therapeutic uses

Carbohydrates, biological studies... Haemophilus... Lipids, biological
studies... Lipopolysaccharides... Moraxella... Neisseria...

Phospholipids, biological studies... Proteins, general, biological studies...

Pseudomonas... Streptococcus...

vaccine formulations containing Moraxella antigens and; antigenic outer
membrane protein OMP21 of Moraxella catarrhalis and gene encoding it
and their prophylactic, diagnostic and therapeutic uses

CAS REGISTRY NUMBERS:

262585-03-5 262854-39-7 amino acid sequence; antigenic outer membrane
protein OMP21 of Moraxella catarrhalis and gene encoding it and their
prophylactic, diagnostic and therapeutic uses

262584-85-0 262584-86-1 262584-87-2 262584-88-3 degenerate primer for
amplification of omp21 gene; antigenic outer membrane protein OMP21 of
Moraxella catarrhalis and gene encoding it and their prophylactic,
diagnostic and therapeutic uses

262585-02-4 nucleotide sequence; antigenic outer membrane protein OMP21 of
Moraxella catarrhalis and gene encoding it and their prophylactic,
diagnostic and therapeutic uses

262584-89-4 262584-90-7 262584-91-8 262584-92-9 262584-93-0
262584-94-1 262584-95-2 262584-96-3 262584-97-4 262584-98-5
262584-99-6 262585-00-2 262585-01-3 primer for amplification of
omp21 gene; antigenic outer membrane protein OMP21 of Moraxella
catarrhalis and gene encoding it and their prophylactic, diagnostic and
therapeutic uses

262586-07-2 unclaimed nucleotide sequence; antigenic outer membrane
protein OMP21 of Moraxella catarrhalis and the gene encoding it and
their prophylactic, diagnostic and therapeutic uses

34/7/22 (Item 3 from file: 399)

DIALOG(R) File 399:CA SEARCH(R)

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129174683 CA: 129(14)174683x PATENT

The 74 kilodalton outer membrane protein from Moraxella catarrhalis

INVENTOR(AUTHOR): Chen, Dexiang; Vandermeid, Karl R.; McMichael, John C.;

Barniak, Vicki L.

LOCATION: USA

ASSIGNEE: American Cyanamid Company

PATENT: PCT International ; WO 9833814 A1 DATE: 19980806

APPLICATION: WO 98US1840 (19980129) *US 36827 (19970131)

PAGES: 84 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07K-014/22A;
A61K-039/095B DESIGNATED COUNTRIES: AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY
; CA; CH; CN; CU; CZ; DE; DK; EE; ES; FI; GB; GE; GH; HU; ID; IL; IS; JP;
KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MD; MG; MK; MN; MW; MX; NO;
NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; UA; UG; US; UZ;
VN; YU; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM
; KE; LS; MW; SD; SZ; UG; ZW; AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE;
IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; ML; MR; NE; SN; TD;
TG

SECTION:

CA215002 Immunochemistry

IDENTIFIERS: Moraxella catarrhalis outer membrane protein vaccine

DESCRIPTORS:

Proteins(specific proteins and subclasses)...

C/D; vaccine comprises the 74 kD outer membrane protein from Moraxella
catarrhalis

Amino acids,properties...

compn.; vaccine comprises the 74 kD outer membrane protein from
Moraxella catarrhalis

Proteins(specific proteins and subclasses)...

CopB; vaccine comprises the 74 kD outer membrane protein from Moraxella
catarrhalis

Drug delivery systems...

diluent; vaccine comprises the 74 kD outer membrane protein from
Moraxella catarrhalis

Proteins(specific proteins and subclasses)...

E; vaccine comprises the 74 kD outer membrane protein from Moraxella
catarrhalis

Lipid A...

monophosphates, 3-O-deacylated; vaccine comprises the 74 kD outer
membrane protein from Moraxella catarrhalis

Antigens...

Moraxella catarrhalis; vaccine comprises the 74 kD outer membrane
protein from Moraxella catarrhalis

Proteins(specific proteins and subclasses)...

UspA; vaccine comprises the 74 kD outer membrane protein from Moraxella
catarrhalis

Adjuvants(immunological)... Drug carriers(drug delivery systems)...

Interleukin 12... Mammal(Mammalia)... Moraxella catarrhalis... Pathogen...

Vaccines...

vaccine comprises the 74 kD outer membrane protein from Moraxella
catarrhalis

Proteins(specific proteins and subclasses)...

74,000-mol.-wt.; vaccine comprises the 74 kD outer membrane protein
from Moraxella catarrhalis

CAS REGISTRY NUMBERS:

21645-51-2 biological studies, vaccine comprises the 74 kD outer membrane
protein from Moraxella catarrhalis

7784-30-7 141256-04-4 211307-42-5 211307-49-2 211307-50-5 211307-51-6
211307-53-8 vaccine comprises the 74 kD outer membrane protein from
Moraxella catarrhalis

34/7/23 (Item 4 from file: 399)

DIALOG(R) File 399:CA SEARCH(R)

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128021856 CA: 128(3)21856k PATENT

Moraxella catarrhalis outer membrane protein-106 polypeptide: sequence and immunogenicity

INVENTOR(AUTHOR): Tucker, Kenneth; Plosila, Laura

LOCATION: USA

ASSIGNEE: Antex Biologics, Inc.

PATENT: PCT International ; WO 9741731 A1 DATE: 19971113

APPLICATION: WO 97US7679 (19970428) *US 642712 (19960503)

PAGES: 77 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: A01N-063/00A; A01N-065/00B; A61K-039/00B; A61K-039/02B; A61K-039/38B; A61K-039/40B; A61K-039/395B; C07H-021/02B; C07H-021/04B; C07K-016/00B

DESIGNATED COUNTRIES: AL; AM; AU; AZ; BA; BB; BG; BR; BY; CA; CN; CU; CZ; EE; GE; GH; HU; IL; IS; JP; KG; KP; KR; KZ; LC; LK; LR; LT; LV; MD; MG; MK; MN; MX; NO; NZ; PL; RO; RU; SG; SI; SK; TJ; TM; TR; TT; UA; UZ; VN; YU; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; KE; LS; MW; SD; SZ; UG; AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; ML; MR; NE; SN; TD; TG

SECTION:

CA215002 Immunochemistry

CA203XXX Biochemical Genetics

CA210XXX MICROBIAL, ALGAL, AND FUNGAL BIOCHEMISTRY

IDENTIFIERS: Moraxella OMP106 protein sequence, vaccine OMP106 protein Moraxella

DESCRIPTORS:

Hemagglutination...

by OMP106 protein of Moraxella catarrhalis

Antibodies...

cytotoxic; to OMP106 protein of Moraxella catarrhalis

Genes(microbial)...

for Moraxella catarrhalis outer membrane protein-106 fragment

Probes(nucleic acid)...

for OMP106 protein of Moraxella catarrhalis

Moraxella catarrhalis...

immunogenicity and sequence of Moraxella catarrhalis outer membrane protein-106 fragments

Synthetic vaccines...

immunogenicity of Moraxella catarrhalis outer membrane protein-106

Species differences...

of erythrocytes in Moraxella catarrhalis OMP106 protein-mediated hemagglutination

DNA sequences...

of OMP106 protein fragment of Moraxella catarrhalis

Protein sequences...

of OMP106 protein fragments of Moraxella catarrhalis

Proteins(specific proteins and subclasses)...

OMP106; immunogenicity and sequence of Moraxella catarrhalis outer membrane protein-106 fragments

Antibodies...

to OMP106 protein of Moraxella catarrhalis

CAS REGISTRY NUMBERS:

11034-93-8 as ligand for OMP106 protein of Moraxella catarrhalis

199456-07-0 as probe for isolation of OMP106 protein of Moraxella catarrhalis

29836-26-8 for isolation of OMP106 protein of Moraxella catarrhalis

199390-66-4P 199390-67-5P 199455-06-6P immunogenicity and sequence of Moraxella catarrhalis outer membrane protein-106 fragments

34/7/24 (Item 5 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
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126046316 CA: 126(4)46316f PATENT
Cloning and expression of 200 kilodalton outer membrane protein gene of
Moraxella catarrhalis and vaccines for otitis media
INVENTOR(AUTHOR): Sasaki, Ken; Harkness, Robin E.; Loosmore, Sheena M.;
Chong, Pele; Klein, Michel H.
LOCATION: Can.,
ASSIGNEE: Connaught Laboratories Limited; Sasaki, Ken; Harkness, Robin E.
; Loosmore, Sheena M.; Chong, Pele; Klein, Michel, H.
PATENT: PCT International ; WO 9634960 A1 DATE: 19961107
APPLICATION: WO 96CA264 (19960429) *US 431718 (19950501) *US 478370
(19950607) *US 621944 (19960326)
PAGES: 109 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-015/31A;
C07K-014/22B; A61K-039/095B; C12N-015/62B; C12N-005/10B
DESIGNATED COUNTRIES: AL; AM; AT; AU; AZ; BB; BG; BR; BY; CA; CH; CN; CZ;
DE; DK; EE; ES; FI; GB; GE; HU; IS; JP; KE; KG; KP; KR; KZ; LK; LR; LS; LT;
LU; LV; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI
DESIGNATED REGIONAL: KE; LS; MW; SD; SZ; UG; AT; BE; CH; DE; DK; ES; FI;
FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN
SECTION:
CA215002 Immunochemistry
CA203XXX Biochemical Genetics
CA209XXX Biochemical Methods
CA210XXX MICROBIAL, ALGAL, AND FUNGAL BIOCHEMISTRY
IDENTIFIERS: sequence Moraxella outer membrane protein gene, vaccine
otitis media Moraxella OMP
DESCRIPTORS:
Branhamella catarrhalis... Moraxella... Outer membrane proteins...
Peptides, biological studies... Vaccines...
cloning and expression of 200 kilodalton outer membrane protein gene of
Moraxella catarrhalis and vaccines for otitis media
DNA sequences...
of 200 kilodalton outer membrane protein gene of Moraxella catarrhalis
Protein sequences...
of 200 kilodalton outer membrane protein of Moraxella catarrhalis
Ear diseases...
otitis media; cloning and expression of 200 kilodalton outer membrane
protein gene of Moraxella catarrhalis and vaccines for otitis media
CAS REGISTRY NUMBERS:
184922-39-2 amino acid sequence; cloning and expression of 200 kilodalton
outer membrane protein gene of Moraxella catarrhalis and vaccines for
otitis media
184895-14-5 internal fragment; cloning and expression of 200 kilodalton
outer membrane protein gene of Moraxella catarrhalis and vaccines for
otitis media
184922-38-1 nucleotide sequence; cloning and expression of 200 kilodalton
outer membrane protein gene of Moraxella catarrhalis and vaccines for
otitis media

34/7/25 (Item 1 from file: 351)
DIALOG(R)File 351:Derwent WPI

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013967224 **Image available**

WPI Acc No: 2001-451438/200148

New 1-benzazepine derivatives e.g. 3-carboxy-1-ethyl-8-methoxy-2,3,4,5-tetrahydro-1H-1-benzapine-2-one for treating bacterial, viral and fungal infections in plants and animals

Patent Assignee: ANTEXPHARMA INC (ANTE-N)

Inventor: HUANG L; TOMAZIC A; TUCKER K D

Number of Countries: 093 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200135964	A1	20010525	WO 2000US30576	A	20001107	200148 B
AU 200114702	A	20010530	AU 200114702	A	20001107	200152

-----Priority Applications (No Type Date):- US 99166167-P 19991118-----

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200135964	A1	E	141	A61K-031/55	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200114702	A			A61K-031/55	Based on patent WO 200135964
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Abstract (Basic): WO 200135964 A1

NOVELTY - 1-Benzazepine derivatives (I) are new.

DETAILED DESCRIPTION - 1-Benzazepine derivatives of formula (I) and their salts, are new.

R1=optionally substituted alkyl, cycloalkyl, alkenyl, alkynyl, optionally substituted X, (CH₂)_nX, (CH₂)mC(O)R, (CH₂)nCN, (CH₂)mC(Q)OR, CON(R)₂, OR, SO₂R, C(O)NHNHR, CH₂(OR), (CH₂)n(OX), (CH₂)mC(NH)NH₂, or (CH₂)nNHX;

R₂, R₃=H, halo, N₃, CN, optionally substituted alkyl, cycloalkyl, alkenyl, alkynyl, optionally substituted X, (CH₂)_nX, CON(R)₂, (CH₂)mNHA₁, (CH₂)mNC(O)R, (CH₂)mC(O)NHOR, (CH₂)mC(O)OR, (CH₂)mC(O)NHA₁, (CH₂)mC(O)N(R)₂, or (CH₂)nC(O)NHA₁; provided that R₂ and R₃ are not both H;

R₄, R₅=alkyl, cycloalkyl, alkenyl, alkynyl, primary or secondary amine, X or (CH₂)_nX, (all optionally substituted), H, halo, CN, NHC(O)R, QR, NHC(=NHC(O)OR, NHC(Q)NHR, OC(O)N(R)₂, COOR or OSi(R)₃; provided that R₄ and R₅ are not both H;

R=H, alkyl, cycloalkyl, alkenyl, alkynyl, X or (CH₂)_nX (all optionally substituted);

Q, Z₁=O or S;

a,b=single or double bond, when a is a double bond only one of R₂ or R₃ is present;

m=0-2;

n=1-3;

X=aryl, arylalkyl, heterocyclyl or heteroaryl;

A₁=CX₁(NH₂)COOH; and

X₁=natural or synthetic amino acid residue.

INDEPENDENT CLAIMS are also included for the following:

(1) preparation of

3(R,S)-carboxy-1-ethyl-8-methoxy-2,3,4,5-tetrahydro-1H-1-benzapine-2-on

e (Ia);

(2) preparation of
3(R,S)-carboxy-1-ethyl-8-methoxy-7-piperazinyl-2,3,4,5-tetrahydro-1H-1-benzapine-2-one (Ib); and

(3) a composition containing (I) and a carrier.

ACTIVITY - Antibacterial. Tests evaluating antibacterial activity of (I) are described but no results given.

MECHANISM OF ACTION - None given.

USE - (I) are used to treat bacterial infections or kill bacteria on inert surfaces. The composition inhibits the growth of bacteria selected from Streptococcus spp., Staphylococcus spp., Clostridium spp., Borrelia spp., Haemophilus spp., Pseudomonas spp., Neisseria spp., Coxiella spp., Shigella spp., Campylobacter spp., Enterococcae spp., E. coli spp., Helicobacter spp., Klebsiella spp., Moraxella spp., Chlamydia spp., Mycobacteria spp., and vancomycin resistant Enterococcae (all claimed). (I) may also be used to treat bacterial infections in plants such as tobacco, vegetables e.g. cucumber, beans, cereals, fruits, nursery plants, ornamental plants e.g. chrysanthemum and trees. (I) may be used as animal growth promoters. They are also used to treat viral or fungal infections.

ADVANTAGE - None given.

pp; 141 DwgNo 0/0

Derwent Class: B02

International Patent Class (Main): A61K-031/55

International Patent Class (Additional): C07D-223/16

34/7/26 (Item 2 from file: 351)

DIALOG(R)File 351:Derwent WPI

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013796791

WPI Acc No: 2001-281002/200129

Novel nucleotide sequences encoding Moraxella catarrhalis outer membrane protein - 106 polypeptide, useful for diagnosis of bacterial infections and as vaccine against Moraxella catarrhalis infection of mammals

Patent Assignee: ANTEX BIOLOGICS INC (ANTE-N)

Inventor: PLOSILA L ; TILLMAN U F ; TUCKER K

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6214981	B1	20010410	US 96642712	A	19960503	200129 B
			US 97968685	A	19971112	

Priority Applications (No Type Date): US 97968685 A 19971112; US 96642712 A 19960503

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6214981	B1	49	C07H-021/02	CIP of application	US 96642712

Abstract (Basic): US 6214981 B1

NOVELTY - An isolated DNA (I), comprising a recombinant nucleotide construct having a nucleotide sequence encoding an OMP106 polypeptide, is new, and which hybridizes under stringent conditions to a 72 base pair sequence, fully defined in the specification, or its complement, is new.

DETAILED DESCRIPTION - An isolated DNA (I), comprising a recombinant nucleotide construct having a nucleotide sequence encoding an OMP106 polypeptide, is new, and which hybridizes under stringent conditions to a 72 base pair sequence, fully defined in the specification, or its complement, is new. OMP106 is an outer membrane polypeptide of *Moraxella catarrhalis*, with a 43 residue amino acid sequence, fully defined in the specification and having a molecular weight of 180-230 kDa, determined in sodium dodecyl sulfate (SDS) polyacrylamide gel electrophoresis using rabbit skeletal muscle myosin and *Escherichia coli* beta-galactosidase as the 200 kDa and 116.25 kDa molecular weight standards, respectively.

INDEPENDENT CLAIMS are also included for the following:

- (1) a plasmid pOMP106X obtainable from *Escherichia coli* Top10 (pOMP106X) as deposited with the ATCC and assigned Accession No.98579;
- (2) an isolated DNA which comprises a 9542 base pair sequence (S1), fully defined in the specification, or its complement; and
- (3) an isolated DNA comprising nucleotides 218-6589 of (S1) which encodes a 2123 residue amino acid sequence, fully defined in the specification.

ACTIVITY - Antibiotic.

MECHANISM OF ACTION - Vaccine.

Complement-mediated cytotoxic activity of anti-OMP106 antibodies was examined to determine the vaccine potential of OMP106 polypeptide. Antiserum to OMP106 polypeptide of a hemagglutinating (HA) cultivar of ATCC 49143 was prepared. The activities of the pre-immune serum and the anti-OMP106 antiserum in mediating complement killing of *M. catarrhalis* were examined using the serum bactericidal test described by Zollinger et al (Immune Responses to *Neisseria meningitis* in Manual of Clinical Laboratory Immunology 3rd ed. pg 347-349 except that cells of HA and non-HA (NHA) *M. catarrhalis* cultivar were used instead of *N. meningitis* cells. The results showed that anti-OMP106 antiserum mediated complement-killing of HA cultivator of heterologous *M. catarrhalis* ATCC 43627 but not a NHA cultivar of *M. catarrhalis* ATCC 43627 or the NHA *M. catarrhalis* ATCC 8176. The anti-OMP106 antiserum had 8 fold greater cytotoxic activity than the pre-immune serum. This finding indicated that OMP106 polypeptide is useful as a vaccine against HA *M. catarrhalis* strains and cultivars.

USE - (I) is useful for expressing OMP106 polypeptide which is useful as a therapeutic and prophylactic vaccine against *M. catarrhalis* infections of animals, including mammals. OMP106 nucleic acids and the encoded polypeptides are useful as reagents for clinical or medical diagnosis of *M. catarrhalis* infections and for scientific research on the properties of pathogenicity, virulence and infectivity of *M. catarrhalis*. (I) is useful as a probe to identify the presence of *M. catarrhalis* in biological specimens by hybridization or polymerase chain reaction (PCR) amplification and to identify other bacteria that encode a polypeptide related to *M. catarrhalis* OMP106. OMP106-derived polypeptides are useful as ligands to detect antibodies elicited in response to *M. catarrhalis* infections and also as immunogens for inducing *M. catarrhalis*-specific antibodies which are useful in immunoassays to detect *M. catarrhalis* in biological specimens. Cytotoxic antibodies are useful in passive immunizations against *M. catarrhalis*.

pp; 49 DwgNo 0/12

Derwent Class: B04; D16

International Patent Class (Main): C07H-021/02

34/7/27 (Item 3 from file: 351)
DIALOG(R) File 351:Derwent WPI
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013684223

WPI Acc No: 2001-168447/200117

Novel multivalent immunogenic composition for conferring protection against infection caused by *Hameophilus influenzae* and *Moraxella catarrhalis* comprises four antigens derived from each of the two microorganisms

Patent Assignee: CONNAUGHT LAB LTD (CONN-N); AVENTIS PASTEUR LTD (AVET)

Inventor: KLEIN M H; LOOSMORE S M; SASAKI K; YANG Y

Number of Countries: 095 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200105424	A2	20010125	WO 2000CA811	A	20000711	200117 B
AU 200059586	A	20010205	AU 200059586	A	20000711	200128
EP 1200122	A2	20020502	EP 2000945494	A	20000711	200236
			WO 2000CA811	A	20000711	
US 6391313	B1	20020521	US 99353617	A	19990715	200239

Priority Applications (No Type Date): US 99353617 A 19990715

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200105424 A2 E 58 A61K-039/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200059586 A A61K-039/00 Based on patent WO 200105424

EP 1200122 A2 E A61K-039/116 Based on patent WO 200105424

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI

US 6391313 B1 A61K-039/116

Abstract (Basic): WO 200105424 A2

NOVELTY - A multivalent immunogenic composition (I) for conferring protection in a host against disease caused by both *Hameophilus influenzae* (HI) and *Moraxella catarrhalis* (MC) comprising four different antigens, of which at least one antigen is from HI and one antigen is from MC, is new. Additionally three of the antigens of (I) are adhesins, and one is from MC.

ACTIVITY - Auditory; antibacterial.

MECHANISM OF ACTION - Vaccine .

Groups of five BALB/C mice were immunized subcutaneously on days 1, 29 and 43 with one of the mouse H91A Hin47 + rHMW + rHia + r200 kDa vaccines . Blood samples were taken on days 0, 14, 28, 42 and 56. Groups of five Hartley outbreed guinea pigs were immunized intramuscularly on days 1, 29 and 43 with the vaccine as described above. Blood samples were taken on days 0, 14, 28, 42 and 56. Anti-H91A Hin47, anti-rHMW, anti-rHia and anti-r200 kDa IgG antibody titers were determined by antigen specific enzyme linked immunosorbant assays (ELISAs). The results of the immunogenicity studies showed that the final bleed sera obtained from mice immunized with 0.3 mug, or 3.0

mug each of H91A Hin47 + rHMW + rHia with 0, 0.3, 1.0, 3.0 or 10.0 mug of added r200 kDa , all had high antibody titers to H91A Hin47 component. The final bleed sera obtained from the mice immunized with 3.0 mug each of H91A Hin47 + rHMW + rHia with 0, 0.3, 1.0, 3.0 or 10.0 mug of added r200 kDa , all had high titer antibodies to the rHMW apparent enhancing or inhibiting effect on the anti-rHMW response with the addition of the r200 kDa component. Mice immunized with 0.3 mug each of H91A Hin 47 + HMW + rHia with 0, 0.3, 1.0, 3.0 or 10.0 mug of added r200 kDa , all had high titer antibodies to the rHia component. There was no apparent enhancing or inhibiting effect on the anti-rHia response with the addition of the r200 kDa component. The final bleed sera obtained from guinea pigs immunized with 25 mug or 50 mug each of H91A Hin47 + rHMW + rHia with 0, 25, 50 or 100 mug of added r200 kDa , all had high titer antibodies to the H91A Hin47 component. Also final bleed sera obtained from guinea pigs immunized with 25 mug or 50 mug each of H91A Hin47 + rHMW + rHia with 0, 25, 50 or 100 mug of added r200 kDa , all had titer antibodies to the rHMW component. There was no apparent enhancing or inhibiting effect on the anti-rHMW response upon the addition of the r200 kDa antigen.

USE - (I) is useful for immunizing a host against infection caused by both HI and MC including otitis media (claimed).

ADVANTAGE - The multivalent vaccine can confer protection against encapsulated and unencapsulated HI and MC diseased in a safe and efficient manner.

pp; 58 DwgNo 0/14

Derwent Class: B04; D16

International Patent Class (Main): A61K-039/00; A61K-039/116

International Patent Class (Additional): A61P-031/04

34/7/28 (Item 4 from file: 351)

DIALOG(R)File 351:Derwent WPI

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013675510

WPI Acc No: 2001-159722/200116

New nucleic acid encoding Moraxella catarrhalis outer membrane protein , useful in protective vaccines and for diagnosis

Patent Assignee: CONNAUGHT LAB LTD (CONN-N); AVENTIS PASTEUR LTD (AVET)

Inventor: KLEIN M H; LOOSMORE S M; SASAKI K; YANG Y

Number of Countries: 095 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200107619	A1	20010201	WO 2000CA870	A	20000726	200116 B
AU 200064187	A	20010213	AU 200064187	A	20000726	200128
EP 1203082	A1	20020508	EP 2000951136	A	20000726	200238
			WO 2000CA870	A	20000726	

Priority Applications (No Type Date): US 99361619 A 19990727

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200107619 A1 E 246 C12N-015/31

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR

IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
AU 200064187 A C12N-015/31 Based on patent WO 200107619
EP 1203082 A1 E C12N-015/31 Based on patent WO 200107619
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): WO 200107619 A1

NOVELTY - Isolated and purified nucleic acid (I) that encoding a 200 kDa outer membrane protein of *Moraxella catarrhalis*, is new.

DETAILED DESCRIPTION - Isolated and purified nucleic acid (I) that encoding a 200 kDa outer membrane protein of *Moraxella catarrhalis*, is new. (I) comprises:

(a) one of 6 nucleic acid sequences (S1), fully defined in the specification, from the strains 4223, Q8 or LES-1, or their complements;

(b) a sequence encoding a 200 kDa (II) having one of 3 polypeptide sequences, fully defined in the specification, from the specified strains;

(c) a sequence encoding a 200 kDa (II) from some other strain, characterized by a tract of 3 or more G nucleotides, and an ATG start codon 80-90 base pairs upstream of the G tract, which is located at amino acid 25-35 of the encoded sequence;

(d) the sequence for a 5'-truncated form of the (II) gene of strain 4223, present in plasmids pKS348 or pQWF, fully defined in the specification, or any sequence encoding the same N-truncated (II);

(e) the sequence for a 5'- and 3'-truncated form of the gene (II) in strain 4223, fully defined in the specification, and contained in plasmid pBR T7 3'200kDa(t), or any sequence that encodes the same truncated protein; or

(f) any sequence encoding truncated proteins similar to (d) and (e) in other strains.

INDEPENDENT CLAIMS are also included for the following:

(1) isolated and purified nucleic acid that is a contiguous NdeI-PstI fragment of (S1);

(2) a transformation vector containing (I) or (Ia);

(3) a host cell transformed with the vector of (II) and expressing (II) or a C-terminal part of it;

(4) recombinant (II), or its truncations, produced by culturing the hosts of (3);

(5) immunogenic composition containing (II) or its truncated forms; and

(6) production of (II) or its truncated forms by culturing cells of (3).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine ; induction of a specific antibody response, producing antibodies that are directly bactericidal or inhibit adhesion of *M. catarrhalis* to epithelial surfaces.

Guinea pig serum, raised against the 200 kDa protein of strain 4223, gave 95-97 % kill of strain 4223 cells at dilutions of 1/64 to 1/256, and at 1/64 it reduced adhesion of 4223 or Q8 cells to Chang cells by 83 % and 55 %, respectively.

USE - (II), and its truncated versions, are used as immunogenic compositions and vaccines to protect against *M. catarrhalis* infections, particularly otitis media in humans. (II) is also used as antigen in immunoassays for detecting specific antibodies (Ab), and to generate Ab. (I) are used for recombinant production of (II) and its

fragments are used as probes for identifying/cloning 200 kDa protein genes from other strains, and for diagnostic detection of M. . catarrhalis.

ADVANTAGE - (I) makes possible production of large amount of recombinant immunogens. Expression of truncated versions of (II) reduces toxicity of the protein towards the Escherichia coli host.

pp; 246 DwgNo 0/24

Derwent Class: B04; D16

International Patent Class (Main): C12N-015/31

International Patent Class (Additional): C07K-014/21

34/7/29 (Item 5 from file: 351)

DIALOG(R)File 351:Derwent WPI

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013121278

WPI Acc No: 2000-293149/200025

Isolated outer membrane protein from a Moraxella catarrhalis strain used for diagnosis treatment and prevention of disease caused by M. catarrhalis e.g. pneumonia, otitis media and respiratory infections

Patent Assignee: ANTEX BIOLOGICS INC (ANTE-N)

Inventor: TILLMANN U F; TUCKER K

Number of Countries: 088 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200018910	A1	20000406	WO 99US22918	A	19991001	200025 B
AU 9964100	A	20000417	AU 9964100	A	19991001	200035
EP 1117779	A1	20010725	EP 99951716	A	19991001	200143
			WO 99US22918	A	19991001	

Priority Applications (No Type Date): US 98164714 A 19981001

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200018910 A1 E 108 C12N-015/11

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 9964100 A C12N-015/11 Based on patent WO 200018910

EP 1117779 A1 E C12N-015/11 Based on patent WO 200018910

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): WO 200018910 A1

NOVELTY - An isolated or substantially purified outer membrane protein (OMP), OMP21, from a Moraxella catarrhalis strain with an apparent molecular weight of 16-20 kD as determined by sodium dodecylsulfate polyacrylamide gel electrophoresis (SDS-PAGE), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a peptide fragment of OMP21 which specifically binds to an antibody that specifically binds OMP21;

(2) an isolated nucleic acid molecule (I) encoding OMP21, a complementary sequence, a sequence substantially homologous to, or any

fragment of OMP21;

(3) plasmid pOMP21X obtainable from *Escherichia coli* Top10F' (pOMP21X) deposited as ATCC 98878;

(4) a recombinant expression vector (II) adapted for transformation of a host cell comprising (I) or the plasmid of (3);

(5) a recombinant expression vector (III) adapted for transformation of a host cell comprising (I) and an expression system operatively coupled to a nucleic acid molecule for expression by the host of OMP21;

(6) a transformed host cell containing (II) or (III);

(7) an isolated recombinant OMP21 producible by the transformed host cell of (6);

(8) an attenuated or inactivated cultivar of *M. catarrhalis* where the cultivar has been genetically manipulated to delete the nucleic acid encoding OMP21 so it is non-transcribed;

(9) a pharmaceutical composition which is prophylactic, therapeutic, or immunogenic including a vaccine, or a vaccine comprising at least one component selected from:

(a) OMP21;

(b) (I);

(c) OMP21, obtained from a transformed host comprising an expression vector containing (I) and a means of expression coupled to the nucleic acid for expression of OMP21 by the host;

(d) a recombinant vector comprising (I); and

(e) a transformed cell comprising the vector of (d);

(10) antisera raised against the compositions or vaccine of (9);

(11) an isolated antibody (IV) present in the antisera of (10) that specifically binds one or more of the components present in the compositions or vaccine of (9);

(12) a method for detecting anti-*M. catarrhalis* antibodies in a test sample comprising:

(a) contacting a test sample with the composition of (9) in the presence of anti-*M. catarrhalis* antibodies to form antigen:anti-*M. catarrhalis* antibody immunocomplexes; and

(b) detecting any immunocomplexes formed as an indication of the presence of anti-*M. catarrhalis* antibodies in the test sample;

(13) a diagnostic kit for detecting antibodies to *M. catarrhalis* comprising the pharmaceutical compositions of (9), a container and a reagent for detecting *M. catarrhalis* antigen:anti-*M. catarrhalis* antibody immunocomplexes formed between the compositions and the sample;

(14) a method for detecting the presence of *M. catarrhalis* in a test sample comprising contacting a test sample with the antibodies of (11) and detecting any immunocomplexes formed as an indication of the presence of *M. catarrhalis* in the test sample;

(15) a diagnostic kit for detecting the presence of *M. catarrhalis* comprising the antibodies of (11), a container and a reagent for measuring *M. catarrhalis*:anti-*M. catarrhalis* antibody immunocomplexes formed between the antibodies and *M. catarrhalis*;

(16) a method for determining the presence of nucleic acid encoding OMP21 in a sample comprising contacting a sample with (I) to produce duplexes comprising (I) and any nucleic acid molecule encoding OMP21 in the sample specifically hybridizable with (I) and detecting the duplexes produced;

(17) a diagnostic kit for determining the presence of nucleic acid encoding OMP21 in a sample comprising (I), a device for contacting (I) with a test sample and a device for detecting duplexes produced; and

(18) a method of preventing, treating or ameliorating a disorder related to *M. catarrhalis* in an animal in need of treatment comprising administering an effective amount of the compositions or vaccine of (9).

ACTIVITY - Antibacterial; auditory; antiinflammatory.

MECHANISM OF ACTION - Vaccine.

Pre-immune serum and anti-OMP21 antiserum was examined for activity in mediating complement killing of *M. catarrhalis* using the Serum Bactericidal Test described by Zollinger et al in Immune responses to *Neisseria meningitis*, Manual of Clinical Laboratory Immunology, 3rd ed., 347-349 with cells of *M. catarrhalis* strains not *N. meningitis* cells. The anti-OMP21 antiserum mediated complement-killing of *M. catarrhalis* ATCC 49143 but not of a deletion mutant of *M. catarrhalis* with the OMP21 gene disrupted.

USE - OMP21, its nucleic acids and antibodies can be used in prophylactic and therapeutic compositions for treating a *M. catarrhalis* bacterial infection, otitis media, respiratory infections, sinusitis and pneumonia (claimed). They are useful as reagents for the clinical or medical diagnosis of *M. catarrhalis* infections and for scientific research on the properties of pathogenicity, virulence and infectivity of *M. catarrhalis* and host defense mechanisms.

The antibodies, particularly those that are cytotoxic may be used in passive immunization to prevent or attenuate *M. catarrhalis* infections of animals e.g. humans.

pp; 108 DwgNo 0/9

Derwent Class: B04; D16

International Patent Class (Main): C12N-015/11

International Patent Class (Additional): A61K-038/00; A61K-039/395;

A61K-048/00; C07K-014/00; C07K-016/00

34/7/30 (Item 6 from file: 351)

DIALOG(R)File 351:Derwent WPI

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012866409

WPI Acc No: 2000-038242/200003

Purified *Moraxella catarrhalis* outer membrane proteins useful for vaccinating against chronic otitis media, acute maxillary sinusitis and other bronchopulmonary and lower respiratory tract infections

Patent Assignee: UNIV TEXAS (TEXA)

Inventor: HANSEN E J; HELMINEN M E; MACIVER I

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5993826	A	19991130	US 91745591	A	19910815	200003 B
			WO 92US6869	A	19920814	
			US 9325363	A	19930302	

Priority Applications (No Type Date): US 9325363 A 19930302; US 91745591 A 19910815; WO 92US6869 A 19920814

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5993826	A		50	A61K-039/102	CIP of application US 91745591
					CIP of application WO 92US6869
					CIP of patent US 5552146

Abstract (Basic): US 5993826 A

NOVELTY - A purified *Moraxella catarrhalis* (also called *Branhamella catarrhalis* and *Neisseria catarrhalis*) 80 kiloDalton (kD) CopB outer membrane protein (I), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (i) an antigen composition (II) prepared by:
 - (1) introducing a recombinant expression vector including a DNA segment encoding (I) into a recombinant host cell;
 - (2) culturing the host cell under suitable conditions for the expression of (I); and
 - (3) collecting the expressed antigen; and
- (ii) a method (III) for inducing an antibody response to *M. catarrhalis* 80 kD CopB antigens in an animal, comprising administering (I).

ACTIVITY - Auditory; Respiratory active.

MECHANISM OF ACTION - Vaccine, administration of (I) stimulates an immune response against *M. catarrhalis* antigens in a patient.

Groups of mice were immunized with the 8B6 monoclonal antibody, specific for the 80 kD outer membrane protein of *M. catarrhalis*. Control mice were immunized with an irrelevant antibody, 2H11 which is specific for *Haemophilus ducreyi*. Doses of 150 micrograms were used 18 hours prior to bacterial challenge. 5 Microliter doses of bacterial suspension, containing *M. catarrhalis* strain 035E, were inoculated into the lungs of the mice. 6 Hours after inoculation, the mice were sacrificed and the number of bacteria remaining in the lungs was determined. It was found that where the 2H11 antibody was used, 97% of the initial bacterial population remained. However, just 38% remained when the 8B6 antibody was used.

USE - (I) may be used to vaccinate against *M. catarrhalis*, a pathogen implicating in causing chronic otitis media, acute maxillary sinusitis and other bronchopulmonary and lower respiratory tract infections.

pp; 50 DwgNo 0/13

Derwent Class: B04; D16

International Patent Class (Main): A61K-039/102

International Patent Class (Additional): A61K-039/02; C07K-014/285;
C07K-016/102

34/7/31 (Item 7 from file: 351)
DIALOG(R)File 351;Derwent WPI
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011582120

WPI Acc No: 1997-558601/199751

Outer membrane protein, OMP106, of *Moraxella catarrhalis* - used in vaccines for producing immune responses against *M. catarrhalis*

Patent Assignee: ANTEX BIOLOGICS INC (ANTE-N)

Inventor: PLOSILA L; TUCKER K

Number of Countries: 077 Number of Patents: 015

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9741731	A1	19971113	WO 97US7679	A	19970428	199751 B
AU 9731180	A	19971126	AU 9731180	A	19970428	199813
ZA 9703809	A	19980225	ZA 973809	A	19970502	199813
NO 9805113	A	19981228	WO 97US7679	A	19970428	199909
			NO 985113	A	19981102	

EP 900025	A1	19990310	EP 97926409	A	19970428	199914
			WO 97US7679	A	19970428	
SK 9801509	A3	19990507	WO 97US7679	A	19970428	199926
			SK 981509	A	19970428	
CZ 9803524	A3	19990616	WO 97US7679	A	19970428	199929
			CZ 983524	A	19970428	
CN 1223549	A	19990721	CN 97195990	A	19970428	199947
BR 9711090	A	19990817	BR 9711090	A	19970428	199954
			WO 97US7679	A	19970428	
HU 9902695	A2	19991228	WO 97US7679	A	19970428	200010
			HU 992695	A	19970428	
NZ 332896	A	20000526	NZ 332896	A	19970428	200033
			WO 97US7679	A	19970428	
JP 2000510696	W	20000822	JP 97540156	A	19970428	200045
			WO 97US7679	A	19970428	
AU 723528	B	20000831	AU 9731180	A	19970428	200046
MX 9809132	A1	19990301	MX 989132	A	19981103	200051
KR 2000010734	A	20000225	WO 97US7679	A	19970428	200102
			KR 98708845	A	19981103	

Priority Applications (No Type Date): US 96642712 A 19960503

Cited Patents: 5.Jnl.Ref; WO 9303761

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9741731 A1 E 78 A01N-063/00

Designated States (National): AL AM AU AZ BA BB BG BR BY CA CN CU CZ EE
GE GH HU IL IS JP KG KP KR KZ LC LK LR LT LV MD MG MK MN MX NO NZ PL RO
RU SG SI SK TJ TM TR TT UA UZ VN YU

Designated States (Regional): AT BE CH DE DK EA ES FI FR GB GR IE IT
KE LS LU MC MW NL OA PT SD SE SZ UG

AU 9731180 A Based on patent WO 9741731

ZA 9703809 A 74 A61K-000/00

NO 9805113 A C07K-000/00

EP 900025 A1 E Based on patent WO 9741731

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LT
LU LV MC NL PT RO SE

CZ 9803524 A3 A61K-039/00 Based on patent WO 9741731

CN 1223549 A A01N-063/00

BR 9711090 A A01N-063/00 Based on patent WO 9741731

HU 9902695 A2 A01N-063/00 Based on patent WO 9741731

NZ 332896 A A61K-039/40 Based on patent WO 9741731

JP 2000510696 W 74 C12N-015/09 Based on patent WO 9741731

AU 723528 B A01N-063/00 Previous Publ. patent AU 9731180

Based on patent WO 9741731

MX 9809132 A1 A01N-063/00

KR 2000010734 A A01N-063/00 Based on patent WO 9741731

Abstract (Basic): WO 9741731 A

A novel isolated or substantially pure OMP106 polypeptide, is an outer membrane polypeptide of *Moraxella catarrhalis*, and has a molecular weight of approx. 180-230 kD, as determined in SDS-PAGE using rabbit skeletal muscle myosin and *E. coli* beta -galactosidase as the 200 kD and 116.25 kD molecular weight standards, respectively.

USE - The OMP106 polypeptide, and the peptide fragments of (2) can be used in vaccines and antigenic compositions. They can also be used for producing an immune response in an animal against *M. catarrhalis* (all claimed).

Dwg.0/9

Derwent Class: B04; D16

International Patent Class (Main): A01N-063/00; A61K-000/00; A61K-039/00;
A61K-039/40; C07K-000/00; C12N-015/09

International Patent Class (Additional): A01N-065/00; A61K-039/02;
A61K-039/095; A61K-039/38; A61K-039/395; C07H-021/02; C07H-021/04;
C07K-014/195; C07K-016/00; C07K-016/12; C12P-021/02; C12N-015/09;
C12R-001-01

?logoff hold

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File 155:MEDLINE(R) 1966-2002/Jul W4

File 5:Biosis Previews(R) 1969-2002/Jul W4

(c) 2002 BIOSIS

File 315:ChemEng & Biotec Abs 1970-2002/Jun

(c) 2002 DECHEMA

File 73:EMBASE 1974-2002/Jul W4

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File 399:CA SEARCH(R) 1967-2002/UD=13706

(c) 2002 AMERICAN CHEMICAL SOCIETY

File 351:Derwent WPI 1963-2002/UD,UM &UP=200249

(c) 2002 Thomson Derwent

?ds

Set	Items	Description
S1	13	AU=PLOSILA -L? -OR-AU=PLOSILA, - L?
S2	994	AU=TUCKER K? OR AU=TUCKER, K?
S3	24	AU=TILLMAN U? OR AU=TILLMAN, U?
S4	11101	MORAXELLA
S5	30878	OMP OR (OUTER()MEMBRANE() (PROTEIN? ? OR POLYPEPTIDE? ?))
S6	8	OMP106
S7	2104090	ANTIBOD? OR IMMUNOGLOBULIN? ?
S8	261207	COMPLEMENT
S9	505284	IMMUNIZ? OR IMMUNIS? OR VACCINE? ? OR VACCINAT?
S10	80	NON-HEMAGGLUTINAT? OR NON()HEMAGGLUTINAT?
S11	8	(S1-S3) AND S4
S12	5	S4 (5N) (S6 OR (S5(3N)106))
S13	8	S11 OR S12
S14	198	S4 (5N) S5
S15	4438	BRANHAMELLA
S16	106	S15 (5N) S5
S17	233	S14 OR S16
S18	64	S17 AND (DALTON? ? OR KDA? ? OR KILODALTON? ?)
S19	31	RD S18 (unique items)
S20	1	S19 AND 74()KDA
S21	30	S19 NOT S20
S22	9	S21 AND ((45 OR 50 OR 60) ()KDA)
S23	21	S21 NOT S22
S24	6	S23 AND ((81 OR 84 OR 95) ()KDA)
S25	15	S23 NOT S24
S26	3	S25 AND DALTON? ?
S27	12	S25 NOT S26
S28	11	S27 AND (S7-S9)
S29	23	(S4 OR S15) (5N) HEMAGGLUTINAT?
S30	19	RD S29 (unique items)
S31	1	S30 AND PASS?
S32	18	S30 NOT S31
S33	13	S32 AND (CULTIVAR? ? OR STRAIN? ? OR ISOLATE? ?)
S34	31	S13 OR S28 OR S33

?logoff hold

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\$1.19 0.371 DialUnits File155

\$2.73 13 Type(s) in Format 7

\$0.80 16 Type(s) in Format 95 (KWIC)

\$3.53 29 Types

\$4.72 Estimated cost File155

\$2.12 0.378 DialUnits File5